

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Conf. No. 9391

Kazunari KURITA et al.

Art Unit: 1792

Application No.: 10/576,321

Examiner: Kunemund, R.

Filed: 04/19/2006

Attorney Dkt. No.: 12054-0059

For: PROCESS FOR PRODUCING HIGH-RESISTANCE SILICON WAFERS AND PROCESS
FOR PRODUCING EPITAXIAL WAFERS AND SOI WAFERS (AS AMENDED)

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants request reconsideration of the final rejection of the claims. As part of the traverse of the rejection, Applicants wish to emphasize the background aspect of the invention. That is, the resistivity of high-resistance silicon wafers is greatly influenced by the amount of oxygen donors generated. In the case of high-resistance wafers with an initial resistance of 100 Ω or above, if the amount of oxygen donors formed as found after heat treatment in device manufacture is 1×10^{13} atoms/cm³ or below, the wafer resistivity can be maintained thereafter at a high level to prevent the resistance values from changing greatly, see Applicants' published application, paragraph [0027, 0029].

The present invention is characterized by subjecting silicon wafers, which are obtained from the Czochralski process so as to have a resistivity of 100 Ω cm or above to a two step heat treatment consisting of first and second heat treatments. It is essential that the first heat treatment be carried out at 850-1000 °C for 0.5 to 5 hours